

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, Sub 926

DOCKET NO. E-2, Sub 931

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| DOCKET NO. E-2, Sub 926 |) | |
| |) | |
| In the Matter of: |) | |
| Application by Carolina Power and Light |) | |
| Company, d/b/a, Progress Energy |) | |
| Carolinas, Inc., for Approval of Proposed |) | |
| Distribution System Demand Response |) | |
| Program |) | DIRECT TESTIMONY OF J. |
| |) | RICK HORNBY ON BEHALF OF |
| And |) | THE SOUTHERN |
| |) | ENVIRONMENTAL LAW |
| DOCKET NO. E-2, Sub 931 |) | CENTER, NATURAL |
| |) | RESOURCES DEFENSE |
| In the Matter of: |) | COUNCIL, ENVIRONMENTAL |
| Application by Carolina Power and Light |) | DEFENSE FUND, AND |
| Company, d/b/a, Progress Energy |) | SOUTHERN ALLIANCE FOR |
| Carolinas, Inc., for Approval of DSM and |) | CLEAN ENERGY |
| Energy Cost Recovery Rider Pursuant to |) | |
| G.S. 62-133.9 and Commission Rule R8- |) | |
| 69 |) | |

1 **I. INTRODUCTION / SUMMARY**

2
3 **Q. PLEASE STATE YOUR NAME, EMPLOYER, AND PRESENT POSITION.**

4 A. My name is J. Richard Hornby. I am a Senior Consultant at Synapse Energy Economics,
5 Inc., 22 Pearl Street, Cambridge, MA 02139.

6 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

7 A. I am testifying on behalf of a coalition (“Coalition”) consisting of Environmental Defense
8 (“ED”), Natural Resources Defense Council (NRDC), Southern Alliance for Clean Energy
9 (“SACE”) and the Southern Environmental Law Center (“SELC”). The members of this
10 coalition are nonprofit, nonpartisan organizations who promote responsible energy choices
11 that solve global warming problems and ensure clean, safe and healthy communities in
12 North Carolina.

13 **Q. PLEASE DESCRIBE SYNAPSE ENERGY ECONOMICS.**

14 A. Synapse Energy Economics (“Synapse”) is a research and consulting firm specializing in
15 energy and environmental issues, including: electric generation, transmission and
16 distribution system reliability, market power, electricity market prices, stranded costs,
17 efficiency, renewable energy, environmental quality, and nuclear power.

18 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AND EDUCATIONAL
19 BACKGROUND.**

20 A. I am a consultant specializing in planning, market structure, ratemaking, and gas
21 supply/fuel procurement in the electric and gas industries. Over the past twenty years, I
22 have presented expert testimony and provided litigation support on these issues in
23 approximately 100 proceedings in over thirty jurisdictions in the United States and

1 Canada. Over this period, my clients have included staff of public utility commissions,
2 state energy offices, consumer advocate offices and marketers.

3 Prior to joining Synapse in 2006, I was a Principal with CRA International and,
4 prior to that, Tabors Caramanis & Associates. From 1986 to 1998, I worked with the
5 Tellus Institute (formerly Energy Systems Research Group), initially as Manager of the
6 Natural Gas Program and subsequently as Director of their Energy Group. Prior to 1986,
7 I was Assistant Deputy Minister of Energy for the Province of Nova Scotia.

8 I have a Master of Science in Energy Technology and Policy from the
9 Massachusetts Institute of Technology (MIT) and a Bachelor of Industrial Engineering
10 from the Technical University of Nova Scotia, now merged with Dalhousie University. I
11 have attached my current resume to this testimony as Hornby Exhibit 1.

12 **Q. PLEASE SUMMARIZE YOUR EXPERIENCE WITH ENERGY EFFICIENCY**
13 **MEASURES AND POLICIES.**

14 **A.** My experience with energy efficiency measures and policies began over thirty years ago
15 as a project engineer responsible for identifying and pursuing opportunities to reduce
16 energy use in a factory in Nova Scotia. Subsequently, in my graduate program at MIT I
17 took several courses on energy technologies and policies, and prepared a thesis analyzing
18 federal policies to promote investments in energy efficiency. After MIT, I spent several
19 years with the government in Nova Scotia, during which time I administered a provincial
20 program to promote energy conservation in the industrial sector and later included energy
21 conservation in all sectors as part of energy plans developed for the province. More

1 recently, over the past twenty years as a regulatory consultant I have helped review and
2 prepare numerous integrated resource plans in the gas and electric industries

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

4 A. Progress Energy Carolinas, Inc (“PEC” or the “Company”) has proposed a number of
5 Demand Side Management (DSM) and Energy Efficiency (EE) programs in Docket No.
6 E-2, sub 926, 927, 928 and 931. In addition to requesting recovery of the costs of those
7 programs, PEC has requested a program performance incentive (PPI) and recovery of net
8 lost revenues. The Company’s initial proposed incentive is presented in the Direct
9 Testimony of Company witness Evans filed June 6, 2008 (“Initial Proposal”). The
10 Company’s revised incentive proposal is presented in the Revised Supplemental Direct
11 Testimony of Company witness Evans filed on November 14, 2008 (Revised Proposal”).
12 In late November the Company reached a Settlement with Public Staff. That Settlement
13 is described in testimony filed by Michael Maness of Public Staff on December 9 and by
14 Mr. Evans on December 12.

15 The Coalition retained Synapse to review the Company’s request for an incentive.
16 The purpose of my testimony is to describe my analyses of the Company’s proposed
17 incentive and present my conclusions based upon that review.

18 **Q. ARE YOU PRESENTING ANY EXHIBITS TO SUPPORT YOUR TESTIMONY?**

19 A. Yes. Hornby Exhibit 2 compares the Company’s proposals to performance targets and
20 shareholder incentives from several jurisdictions. Hornby Exhibit 3 compares the
21 structure of the Company’s proposed performance incentive to an alternative structure.

1 **Q. WHAT DATA SOURCES DID YOU RELY UPON TO PREPARE YOUR**
2 **TESTIMONY AND EXHIBITS?**

3 A. My testimony is based upon on materials filed by the Company in this proceeding, the
4 Direct Testimony filed on behalf of the Public Staff of the North Carolinas Utilities
5 Commission in Docket E-7, Sub 831 as well as various orders and reports regarding
6 ratepayer funded efficiency programs and cost recovery frameworks. I relied in
7 particular upon orders from recent major generic proceedings on this issue in California¹
8 and in New York.² These orders discuss the evolution of performance incentives in those
9 states as well as the range of approaches proposed by the various intervenors.

10 **Q. HAVE YOU HAD THE OPPORTUNITY TO REVIEW RESPONSES TO DATA**
11 **REQUESTS REGARDING THE SETTLEMENT?**

12 A. My testimony regarding the Settlement is based primarily upon my understanding of the
13 testimony supporting it filed by Mr. Maness and Mr. Evans. On December 19 I had an
14 informal discovery call with the Company and received their responses to discovery.
15 Due to the compressed schedule for this stage of the proceeding and the limited provision
16 for discovery I request the right to update my testimony if I receive responses to data
17 requests that clarify my understanding.

18 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE**
19 **SHAREHOLDER INCENTIVES IN THE PROPOSED SETTLEMENT.**

¹ Decision 07-09-043 in Rulemaking 06-04-010, California Public Utilities Commission.

² Order issued August 22, 2008 in Case 07-M-0548, New York Public Service Commission.

1 A. Based upon my analyses I have the following conclusions regarding the shareholder
2 incentives in the proposed Settlement:

- 3 • First, it is appropriate to provide the Company some level of shareholder
4 incentive for energy efficiency and demand response actually achieved through its
5 EE and DSM programs;
- 6 • Second, the total level of incentives that the Company would receive under the
7 settlement is not reasonable. On all programs except Distribution System
8 Demand Response (DSDR) the Company would earn a return plus a Program
9 Performance Incentive (PPI). The total incentives on those programs is not
10 reasonable because it is not commensurate with the Company's risk and financing
11 costs and because the Company does not have to meet a reasonable performance
12 target before starting to receive the PPI;
- 13 • Third, a reasonable performance-based shareholder incentive should have
14 performance targets, expressed as reductions in energy use (MWh) and peak
15 demand (MW), commensurate with the achievable potential for those reductions
16 within the Company's service territory over the time period covered by its
17 programs. PEC should not receive a PPI at low levels of actual performance
18 relative to the target, and its maximum incentive should be capped. The PPI
19 should be set at levels similar to those the Public Staff proposed in the Duke
20 Energy Carolinas LLC (Duke) proceeding (NCUC Docket No. E-7, sub 831).

21 My conclusion regarding the recovery of net lost revenues under the Settlement, i.e.
22 recovery for three years, is that it is not the best approach and that the Company should

1 consider the decoupling approach recommended in the testimony of Mr. Nathanael
2 Greene. However, I agree that it is advisable to have some type of mechanism for this
3 purpose, and that the net lost revenue approach proposed in the settlement is preferable to
4 outright denial of any mechanism.

5 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE**
6 **COMPANY'S PROPOSED SHAREHOLDER INCENTIVES.**

7 A. With respect to incentives I recommend that the Commission:

- 8 • Reject the PPI proposed in the settlement;
- 9 • Approve an alternative performance-based incentive that includes explicit goals
10 for reductions in energy and demand, and that compensates the Company with
11 amounts that correspond to its actual performance relative to its goals and that are
12 commensurate with its costs and risks. I recommend specific values for these
13 reduction goals and compensation levels in my testimony; and
- 14 • Require a review of the incentive approved in this proceeding after no more than
15 four years of actual experience.

16 With respect to net lost revenues, I recommend that the Commission limit the Company's
17 recovery to three years.

18 **Q. HOW IS THE BALANCE OF YOUR TESTIMONY ORGANIZED?**

19 A. The balance of my testimony begins with a brief discussion of the rationale for providing
20 utilities responsible for achieving reductions in energy and demand with a financial
21 incentive. I then summarize and evaluate the Company's proposed incentives. Finally I
22 present an alternative to the Company's proposals.

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II. RATIONALE FOR UTILITY INCENTIVE

Q. WHAT IS THE BASIC RATIONALE FOR PROVIDING A FINANCIAL INCENTIVE TO ANY ENTITY RESPONSIBLE FOR REDUCING ENERGY AND DEMAND THROUGH EE AND DSM PROGRAMS?

A. The basic rationale for providing a financial incentive to any entity responsible for reducing energy and demand through EE and DSM programs is to motivate aggressive pursuit of all cost-effective savings in kWh and kW, and thereby meet the electricity needs of ratepayers at least-cost. This rationale is discussed in reports published by such organizations as the American Council for an Energy Efficient Economy (ACEEE)³ and the National Action Plan for Energy Efficiency (NAPEE).⁴

Q. IS PROVIDING A FINANCIAL INCENTIVE TO UTILITIES FOR REDUCING ENERGY AND DEMAND THROUGH UTILITY INVESTMENTS AND PROGRAMS CONSISTENT WITH RATE REGULATION?

A. Yes. If a regulator determines that the least-cost approach to reducing energy and/or demand in a particular market segment or energy end-use is through utility investments and programs, then allowing that utility to earn a return, in addition to recovering its program costs, would be consistent with the standard principles of rate regulation. In fact, rate regulation relies upon a range of positive (“carrots”) and negative (“sticks”) financial incentives to encourage utilities to provide reliable service at reasonable cost.

³ Kushler, Martin, et al. *Aligning Utility Interests with Energy Efficiency Objectives*. ACEEE, October 2006.
⁴ NAPEE (2007). *Aligning Utility Incentives with Investment in Energy Efficiency*. Prepared by Val R. Jensen, ICF International <www.epa.gov/eeactionplan>.

1 The most common example of a positive financial incentive given to utilities is
2 the establishment of rates based upon revenue requirements and sales quantities for a
3 “test year.” This approach provides utilities with the opportunity, but not the guarantee,
4 of earning a return on their investments in rate base during the period when rates are in
5 effect. Under this approach utilities have a strong incentive to minimize their actual costs
6 and maximize their sales volumes, thereby maximizing their actual earnings, or return on
7 equity.

8 A common negative financial incentive is the threat of a disallowance of actual
9 costs that are found to be imprudent. For example, the threat of a prudence review
10 provides utilities with a financial incentive to control their fuel costs, which are an
11 expense that they simply recover dollar-for-dollar through the fuel adjustment clause, in
12 order to avoid a disallowance of fuel costs that are found to be imprudent.

13 **Q. DOES THE EXISTENCE OF A STATUORY OBLIGATION REQUIRING**
14 **UTILITIES TO ACHIEVE A SPECIFIED REDUCTION IN ENERGY AND/OR**
15 **DEMAND ELIMINATE THE RATIONALE FOR A FINANCIAL INCENTIVE?**

16 **A.** No. Utilities, in exchange for being given a monopoly in their service territory, have
17 always had an obligation to provide reliable service at reasonable cost. The definition of
18 “reasonable cost” has always included provision for the opportunity to earn a reasonable
19 return on investment. Thus, neither the fact that the obligation to provide reliable service
20 at reasonable rates can be interpreted to require utilities to acquire cost-effective
21 reductions in energy and demand nor the existence of a law that requires utilities to
22 acquire a certain quantity of kWh savings each year, necessarily eliminates the rationale

1 for an incentive. Similarly, the fact that the utility may have a much more attractive rate
2 mechanism for recovering its DSM and EE program costs than it does for its investments
3 in new generating units does not eliminate the rationale for an incentive. (Rate
4 mechanisms for recovery of EE and DSM program costs are often more attractive than
5 base rates because they typically are surcharges that can be adjusted annually to, in
6 essence, guarantee dollar-for-dollar recovery of prudently incurred actual costs, and thus
7 minimize the utility's financial risk).

8 However, the existence of these obligations, and the differences between
9 recovering costs via base rates and special rate surcharges should be reflected in the
10 design of any financial incentive. In other words these factors are relevant to the
11 determination of what constitutes a "reasonable" financial incentive.

12 **Q. WILL THE NATURE AND LEVEL OF FINANCIAL INCENTIVES FOR**
13 **REDUCING ENERGY AND DEMAND VARY ACCORDING TO THE ENTITY**
14 **RESPONSIBLE FOR MAKING INVESTMENTS AND DELIVERING**
15 **PROGRAMS?**

16 A. Yes. Utility delivered energy efficiency and demand response investments and programs
17 are only one of many possible approaches to reducing energy and/or demand. Among the
18 range of other approaches are delivery of ratepayer funded DSM and EE programs by
19 other entities, including contractors under the administration of the utility, distribution
20 only utilities or a third party administrator (TPA).

21 The nature and level of financial incentives for reducing energy and demand will
22 vary according to the entity responsible for making investments and delivering programs.

1 For example, shareholders of a vertically integrated utility like PEC have the opportunity
2 to earn a return from investments in new generating units. Therefore, they will likely
3 want the opportunity to earn a similar relative rate of return on EE and DSM program
4 costs, commensurate with the differences in risk, as well as the opportunity to earn a
5 similar absolute annual amount of return. In contrast, a distribution-only utility or a TPA
6 that does not have the opportunity to invest in generating units will likely be willing to
7 accept lower relative and absolute financial incentives.

8 Thus, the difference between a vertically integrated utility responsible for
9 delivering such programs, and some other entity such as a distribution only utility or
10 TPA, is not the need for an incentive. Instead, it is the appropriate magnitude and design
11 of the incentive.

12 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY THE DIFFERENCES IN RISK**
13 **BETWEEN RECOVERY OF AN INVESTMENT IN SUPPLY AND A DSM**
14 **PROGRAM EXPENDITURE?**

15 A. PEC faces less risk when recovering its DSM program expenditures via the EE/DSM
16 rider than it does when recovering its investment in new generation via base rates. First,
17 DSM program expenditures tend to be smaller and are made over a number of years,
18 which gives PEC the opportunity to refine the design of its DSM programs to improve
19 their performance. Second, since the EE/DSM rider is subject to an annual true-up PEC
20 is essentially guaranteed recovery of its DSM program costs, whereas base rates only
21 provide it with the opportunity to recover its investments in new generation.

1 **Design of Utility Incentives**

2 **Q. WHAT ARE THE BASIC APPROACHES TO PROVIDING UTILITIES A**
3 **FINANCIAL INCENTIVE FOR REDUCING ENERGY THROUGH EE AND**
4 **DSM PROGRAMS?**

5 A. There are two basic approaches to providing utilities a financial incentive for reducing
6 energy through EE and DSM programs.

7 One approach is to allow the utility to treat its program costs in a given year as
8 expenses, similar to its other annual operating, maintenance and administration expenses.
9 Under this approach the utility recovers all program costs spent in a given year from its
10 rates in that year and could earn an incentive, expressed as either a percentage of program
11 costs or a percentage of net savings (i.e. avoided costs minus program costs) if it met its
12 performance target for that year. This approach is referred as expensing, and the
13 incentives are referred to as performance incentives. In its June 2008 filing PEC
14 proposed this type of approach, but it proposed a return in addition to a performance
15 incentive.

16 The second approach is to allow the utility to treat its program costs in a given
17 year as investments, similar to its other investments in generation, transmission and
18 distribution capacity. Under this approach the utility spreads the recovery of its program
19 costs over the expected life of the EE and DR measures and earns a return on the
20 unamortized balance each year. This approach is referred as "capitalizing expenses," or
21 deferred accounting.

22

1 **Q. IS THERE A STANDARD DESIGN FOR PERFORMANCE INCENTIVES FOR**
2 **ENERGY EFFICIENCY?**

3 A. No. The design of performance incentives for reductions in energy (kWh) consumption
4 varies from state to state, and sometimes from utility to utility within states. This
5 variation in detailed design is not surprising; it reflects the variation in specific
6 circumstances from state to state and from utility to utility. For example, both California
7 and New York have conducted state-wide generic proceedings on this issue. Based upon
8 those proceedings, the California Public Utilities Commission approved incentive levels
9 expressed as percentages of net savings. The New York Public Service Commission
10 reached a different conclusion, and approved incentive levels expressed as percentages of
11 program costs.

12 Based upon my review of performance incentives in various jurisdictions the common
13 components of any performance incentive structure are:

- 14 • A performance goal, or benchmark;
- 15 • Receipt of a specific level of incentive for achieving that goal, including the basis
16 for that incentive; and
- 17 • Receipt of lower and higher levels of incentives for actual performance below and
18 above the goal respectively.

19 **Q. HAVE THERE BEEN RECENT MAJOR GENERIC PROCEEDINGS**
20 **REGARDING THE DESIGN OF SHAREHOLDER INCENTIVES FOR UTILITY**
21 **ENERGY EFFICIENCY PROGRAMS IN OTHER STATES?**

1 A: Yes. As noted earlier, both California and New York have completed major generic
2 proceedings on shareholder incentives in the past two years. Each of these proceedings
3 considered the history of shareholder incentives as well as the range of approaches to
4 designing them. The incentives in California and New York are primarily, if not
5 completely, in the form of compensation for performance rather than returns in the form
6 of carrying costs.

7 In arriving at its decision regarding an incentive structure, the California Public
8 Utilities Commission (CPUC) explicitly considered the earnings that could be achieved
9 from using supply-side resources to meet future energy requirements rather than energy
10 efficiency. In this analysis, which the CPUC refers to as a “supply-side comparable
11 earnings analysis”, utilities first estimate the pre-tax earnings they would have received
12 from future supply-side resources that would be avoided if they met 100% of their energy
13 reduction goals. Next, the utilities estimate the net benefits, i.e. avoided costs minus
14 program costs, that would be achieved avoided if they met 100% of their energy
15 reduction goals. (The CPUC refers to this measure as a Performance Earnings Basis or
16 “PEB” at 100% of Goal). Finally, the utilities calculate the ratio of their supply-side
17 comparable earnings to their PEB. These ratios, which range from 21% to 28% as noted
18 on page 42 of Decision 07-09-043, are essentially supply-side pre-tax earnings expressed
19 as a percentage of net savings.

20 Although the CPUC did explicitly consider estimates of supply-side pre-tax
21 earnings expressed as a percentage of net savings, it ultimately set the levels of incentives
22 at much lower percentages of net savings. For example, under the incentive structure

1 approved in Decision 07-09-043, a utility that achieves 100% or more of its energy
2 reduction goals will receive a pre-tax incentive equal to 12% of the net savings from that
3 reduction. In addition, the CPUC has set financial penalties for utilities whose actual
4 performance is less than 65% of their performance goal.

5 In explaining the basis for the levels of incentive that it ultimately approved, the
6 CPUC noted that it believes the “supply-side comparable earnings benchmark ...should
7 be applied very conservatively.”⁵ It also noted that “earnings that approach comparable
8 supply-side levels should be awarded at a level of superior performance that is
9 performance that is significantly greater than the forecasted level of savings or net
10 benefits expected from the authorized energy efficiency portfolio.”⁶

11 The CPUC ultimately approved a performance-based shareholder incentive
12 expressed as a pre-tax amount equivalent to a percentage of net savings. The
13 performance target equates to incremental reductions greater than 1% of annual retail
14 sales. If a California utility’s actual performance is equal to 100% of the performance
15 target it will earn an incentive, pre-tax, equal to 12% of net savings, i.e. avoided costs
16 minus program costs. (This equates to an after-tax amount equal to 7.2% of net savings).
17 The structure includes penalties for failure to meet specified minimum levels of
18 performance. Demand response conducted by California utilities is not included in this
19 program.

20 New York allows retail competition and thus its shareholder incentives apply to
21 distribution utilities. However, the levels of incentive approved in that proceeding are

⁵ Decision 07-09-043, page 105.

1 based upon a review of incentives in other jurisdictions, including the California
2 incentive structure. The New York Commission also approved a performance-based
3 incentive. The performance targets are incremental reductions of approximately 0.7% of
4 annual retail sales. If a New York utility's actual performance is equal to 100% of the
5 performance target it will earn an incentive, pre-tax, equal to 12% of program costs. (This
6 equates to an after-tax amount equal to 7.2% of net savings). The incentive structure also
7 includes penalties for failure to meet specified minimum levels of performance and does
8 not apply to demand response.

9 **Q. ARE THERE JURISDICTIONS THAT ALLOW UTILITIES TO EARN A VERY**
10 **HIGH INCENTIVE FOR ACTUAL PERFORMANCE THAT IS**
11 **SIGNIFICANTLY GREATER THAN THE REDUCTION REQUIRED OR**
12 **FORECAST?**

13 A. Yes. In Minnesota legislation requires utilities to meet a specific portion of the energy
14 requirements of their customers through energy efficiency. Under the incentive structure
15 in Minnesota the annual performance goal is set at the statutory requirement. The levels
16 of incentives are then set such that a utility receives a relatively low incentive for meeting
17 the minimum reduction required by law and much higher incentives for exceeding that
18 minimum requirement. For example, if Northern States Power actual energy efficiency
19 program performance in 2007 was equal to its statutory obligation it would have received
20 a pre-tax incentive equal to 3% of its minimum required program budget. In contrast, if
21 its actual energy efficiency program performance in 2007 was 150% of its statutory

⁶ Ibid, page 108.

1 obligation, Northern States Power would have received a pre-tax incentive equal to 30%
2 of its minimum required program budget.. In 2006, operating under this regulatory
3 framework, Northern States Power implemented efficiency programs that produced
4 “first-year” energy reductions equal to 0.72% of its retail sales in that year.⁷

5 In Ohio, Duke Energy Ohio has filed a settlement under which it would not earn
6 any incentive if it failed to meet that state’s new statutory efficiency mandate. However,
7 it could earn an after-tax incentive of up to 15% of its program costs if its actual
8 reductions were greater than 125% of that mandate. The Public Utilities Commission of
9 Ohio issued a decision approving that settlement December 19, 2008.

10 As with California and New York, the incentives in Minnesota and Ohio are
11 primarily, if not completely, in the form of compensation for performance rather than
12 returns in the form of carrying costs.

14 II. SHAREHOLDER INCENTIVES PROPOSED BY PEC

15 Q. PLEASE DESCRIBE THE INCENTIVES THE COMPANY INITIALLY 16 PROPOSED.

17 A. In the Direct Testimony of Company witness Evans, pre-filed in June 2008, PEC
18 requested both a return and a “performance incentive”. . I refer to this as the Initial
19 Proposal.

20 The proposed return was a cost of capital on its DSDR program and a carrying
21 cost on its remaining program. The performance incentive was an amount equal to 50

⁷ <http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>

1 percent of the net present value of its DSM and EE program savings, as measured by the
2 Utility Cost Test (UCT). Under this approach the actual incentive amount the Company
3 would receive for a specific EE program would always be directly proportional to the
4 actual reductions in energy achieved by that program relative to the reduction target set
5 for that program. The incentive for DR would operate in the same manner.

6 Mr. Evans does not present explicit reduction targets for each EE and DR
7 program. I have been advised by Mr. Brian Henderson, who is also testifying on behalf
8 of the Coalition, that the aggregate reduction target for incremental EE from programs
9 filed by the Company to date represents approximately 0.23% of PEC's projected annual
10 retail sales in year four.

11 In addition, Mr. Evans proposes that the Company recover the estimated net lost
12 revenues associated with the energy and demand reductions from its EE and DR
13 programs. (Net lost revenues or NLR represent the retail revenues the Company estimates
14 it would have collected, in the absence of its programs, minus the costs it is able to avoid
15 because of the reduction in annual energy and peak demand. Thus NLR represents the
16 fixed costs of providing generation, transmission and distribution service, per kWh of
17 retail sales, that the Company will not collect from each kWh of energy reduction
18 resulting from its programs.) Mr. Evans did not state the number of years for which the
19 Company is proposing to recover NLR, but the prefiled workpapers implied that the
20 Company intended to recover NLR for the lifetime of installed measures which would be
21 on the order of ten years.

1 **Q. PLEASE DESCRIBE THE REVISED INCENTIVES THE COMPANY**
2 **PROPOSED IN NOVEMBER.**

3 A. On November 14, 2008 Mr. Evans filed Revised Supplemental Direct Testimony in
4 which he proposed three incentives. I refer to this as the Revised Incentive. It consists of
5 three components:

- 6 • Capitalization of DR and EE program expenses, with recovery of these costs over
7 ten years. Under this approach the Company again earns its cost of capital on the
8 DSDR program and a carrying cost on its other DSM and EE programs. My
9 understanding is that the cost of capital would be based upon a weighted average
10 cost of capital of 9.54% and its carrying cost would be based upon a weighted
11 average cost of capital of 10.4469%;
- 12 • A program incentive, which would be a pre-tax amount equal to 15 percent of the
13 net present value of its EE program UCT net savings and 10 percent of DSM
14 program UCT net savings, as measured by the Utility Cost Test; and
- 15 • A portfolio incentive, which would be tied to the Company's actual performance
16 in meeting explicit targets for aggregate reductions in energy and in demand. The
17 incentives for EE and for DSM would be pre-tax amounts equal to 15 percent of
18 the net present value of UCT net savings of the EE portfolio and the DSM
19 portfolio respectively.

20 Mr. Evans does not present the reduction targets set for each EE and DR program. I have
21 been advised by Mr. Brian Henderson that the reduction targets are the same as in the
22 Initial Proposal.

1 In addition, Mr. Evans continued to propose that the Company recover its
2 estimated NLR. However, in this Revised Proposal he proposes that the Company's
3 recovery of these amounts be limited to 36 months for each EE and DR program vintage
4 year.

5 **Q. PLEASE DESCRIBE THE INCENTIVES UNDER THE SETTLEMENT**
6 **AGREEMENT.**

7 A. The incentives under the Settlement Agreement are similar to those filed by Mr. Evans on
8 November 14, 2008. The major change is a reduction in the PPI. I refer to this as the
9 Settlement Incentive. It consists of three components:

- 10 • Capitalization of DR and EE program expenses – no material change; and
- 11 • A program incentive, which would be a pre-tax amount equal to 13 percent of the
12 net present value of its EE program UCT net savings and 8 percent of DSM
13 program UCT net savings. These incentives would be recovered over ten years.

14 There does not appear to be any change in the reduction targets set for each EE and DR
15 program. In addition, recovery of estimated NLR will continue to be limited to 36
16 months for each EE and DR program vintage year.

17 **Q. CAN YOU PROVIDE AN EXAMPLE OF THE DIFFERENCE IN ANNUAL**
18 **COSTS TO RATEPAYERS UNDER EACH OF THESE APPROACHES?**

19 A: Yes. The Company is proposing to spend \$5.7 million on EE programs in the Rate
20 Period, plus \$1.17 million of A&G expenses, a total of \$6.9 million. By spreading that
21 amount over ten years, PEC wishes to recover \$0.69 million of those costs in the rate
22 period. In addition, it proposes carrying costs of \$0.544 million and a PPI of \$0.122

1 million. Those two incentives total \$0.666 million, almost equal the program costs being
2 recovered in that year. (This data is drawn from Evans Settlement Exhibit No. 2, Rate
3 Period, Row 12.)

4 **Q. HAS THE COMPANY PRESENTED A CLEAR PICTURE OF THE TOTAL**
5 **AMOUNT THAT IT WILL COLLECT FROM RATEPAYERS UNDER EACH OF**
6 **THESE APPROACHES?**

7 A: No. In its June 2008 filing the Company proposed to “expense” its program costs and
8 collect essentially all of them, \$36 million including return, carrying costs and PPI, in the
9 Rate Period, December 2008 through November 2009. Subsequently, in its November
10 filing and the Settlement Agreement, the Company proposed to “capitalize” its program
11 costs and recover them over a 10 year period. Under this approach the amount collected
12 in the Rate period would be \$9.559 million.⁸ However, that is only year one of the ten-
13 year recovery period for those costs. The Company has not provided a calculation of the
14 amount it would collect in years two through ten of that ten-year recovery period, nor of
15 the “net present value” of the total amount that it will ultimately collect from ratepayers
16 over the ten years under this approach.

17 **Q. DO EITHER MR. EVANS OR MR. MANESS TREAT OR PRESENT THE**
18 **RETURN THAT THE COMPANY WILL EARN FROM THE CARRYING COST**
19 **AS A SHAREHOLDER INCENTIVE?**

20 A: No they have not. However, this carrying cost is a financial incentive. Under the
21 Settlement Agreement the Company will spend an amount on a program in a given year

⁸ Evans Settlement, Exhibit No. 2

1 and recover that amount over ten years. The Company will earn a carrying cost of 8.8%
2 on the unamortized balance during each of the ten years. Moreover, unlike recovery via
3 base rates, the Company is effectively guaranteed recovery of this amount because
4 recovery via the DSM rider is subject to an annual "true-up". Neither Mr. Evans nor Mr.
5 Maness have indicated what it would actually cost PEC to finance that amount for ten
6 years

7 **Q. DO EITHER MR. EVANS OR MR. MANESS PRESENT A RATIONALE FOR**
8 **THE LEVELS OF PPI THAT THE COMPANY WILL RECOVER UNDER THE**
9 **SETTLEMENT?**

10 A: No. Under the Settlement Agreement the Company has the opportunity to receive an EE
11 PPI equal to 13 percent (net present value) of whatever level of EE program UCT net
12 savings it achieves. It has a corresponding DSM PPI equal to 8 percent of DSM program
13 UCT net savings. These financial incentives are additional to its carrying costs.

14 **Q. HAS THE COMPANY PRESENTED ANY QUANTITATIVE ANALYSES TO**
15 **SUPPORT THESE LEVELS OF INCENTIVES?**

16 A. No.

17 **Q. ARE RETURN PLUS PERFORMANCE INCENTIVES AUTOMATIC OR**
18 **MANDATORY UNDER NORTH CAROLINA STATUTES AND**
19 **REGULATIONS?**

20 A. No. First, my understanding is that the Company has the right to propose either an
21 expensing approach or a capitalizing/deferred accounting approach. Under an expensing

1 approach there does not appear to be an automatic right to a specific return, and certainly
2 not to a performance incentive.

3 If the Company does choose a capitalizing approach, GS 62-133.9d does require
4 the Commission to allow it. However, the Commission is not obligated to approve an
5 additional incentive. Moreover, under its Rule R8-69 the Commission is only required to
6 allow refunds of any over-collection of reasonable and prudently incurred costs with an
7 amount of interest, at such rate as the Commission determines to be just and reasonable.
8 (b3). The Commission may, but is not required to, allow the Company to "...accrue a
9 return at the net-of-tax rate of return approved in the electric public utility's most recent
10 general rate proceeding."(b6).

11 12 13 **III. EVALUATION OF PEC PROPOSAL**

14 **Shareholder incentives**

15 **Q. HOW DID YOU EVALUATE THE REASONABLENESS OF THE COMPANY'S**
16 **PROPOSED SHAREHOLDER INCENTIVES?**

17 **A:** In order to assess the reasonableness of the Company's proposed shareholder incentives I
18 comparing them to the shareholder incentives for utility energy efficiency programs that
19 have been approved in several other jurisdictions. I focused in particular on recent
20 decisions by New York and California regulators because those two jurisdictions have
21 recently completed major generic proceedings on this issue.

1 **Q. HOW DO THE COMPANY'S PROPOSED SHAREHOLDER INCENTIVES**
2 **COMPARE TO SHAREHOLDER INCENTIVES FOR UTILITY ENERGY**
3 **EFFICIENCY PROGRAMS APPROVED IN OTHER JURISDICTIONS?**

4 A: The Company's proposed performance targets are much lower than those established in
5 other states, and its proposed levels of shareholder incentives are much higher than those
6 approved for utility EE and DSM programs in the other jurisdictions covered by my
7 review.

8 In order to prepare a relatively simple, high level comparison, of the shareholder
9 incentives from various jurisdictions, I have focused upon EE programs and considered
10 two key components. The first component of the incentive is the performance target,
11 which is often expressed as a percentage of annual retail sales. The second component of
12 the incentive is the amount the utility receives if it achieves the performance target,
13 which is often expressed as either a percentage of net savings⁹ or a percentage of program
14 costs.

15 My comparison is presented graphically in Hornby Exhibit No. 2. The chart in
16 that Exhibit plots the levels of shareholder incentives the Company proposed for
17 achieving its proposed target performance in its June and November filings respectively.
18 I cannot complete this chart for the Settlement until the Company provides the total
19 amount it expects to collect over the ten-year recovery period.

20 The Initial Proposal is plotted as a blue diamond and the Revised Proposal as a
21 green triangle. The chart also plots the level of incentive for energy efficiency that the

1 Public Staff recommended in the Duke case, i.e., 10%, as well as the targets and
2 corresponding incentives approved in New York and California.

3 The horizontal or “x” axis presents the performance target under each shareholder
4 incentive. For comparison purposes these targets are expressed in terms of incremental
5 reductions as a percentage of annual retail sales. The vertical or “y” axis plots the level
6 of incentive a utility receives if its actual reductions are equal to its performance target.
7 Again, for comparison purposes, these incentives are expressed as after-tax amounts,
8 either percentages of program costs or percentages of net savings.

9 As indicated in the chart, the Company’s Initial Proposal and its Revised Proposal
10 are both much higher than any shareholder currently in effect in the states covered by my
11 survey.

12 **Q. MUST ONE USE CARE WHEN COMPARING PERFORMANCE INCENTIVES**
13 **FOR VARIOUS UTILITIES IN VARIOUS JURISDICTIONS?**

14 **A:** Yes. It is very difficult to make a complete “apples to apples” comparison of explicit
15 performance incentives for EE and DSM programs. The comparison I present in Hornby
16 Exhibit No. 2, is subject to two import caveats.

- 17 • First, an explicit performance incentive is only one component of the regulatory
18 framework within which a utility is delivering energy efficiency programs. Other
19 relevant components may include statutory requirements, explicit performance
20 targets, methods of program cost recovery, the method of lost margin recovery,
21 rate design, and rate levels. It is very difficult to either “normalize for” or capture

⁹ The definition of net savings varies from state to state as well. States variously use the utility cost test, the total

1 all of these factors in any comparison of total shareholder incentives. For
2 example, like Ohio, the California regulatory framework allows utilities to
3 recover program costs, an incentive and lost margins. However, California has
4 an explicit penalty for utilities that do not achieve a threshold level of reductions.
5 Minnesota allows recovery of program costs and a shareholder incentive but does
6 not allow utility compensation for one of the three categories of costs, i.e., lost
7 revenues.

- 8 • Second, the shareholder incentives in other jurisdictions are primarily for EE
9 programs. In contrast, the Company is proposing total shareholder incentives for
10 savings from both EE and DSM programs.

11 Therefore, the comparison that I present in Hornby Exhibit No. 2 is simply meant to
12 help inform the Commission's decision making on this issue.

13
14 **Net lost revenues**

15 **Q. PLEASE COMMENT ON THE RECOVERY OF NLR UNDER THE**
16 **SETTLEMENT.**

17 A. Net lost revenues or NLR represent the retail revenues the Company estimates it would
18 have collected, in the absence of its programs, minus the costs it is able to avoid because
19 of the reduction in annual energy and peak demand. Thus NLR represents the fixed costs
20 of providing generation, transmission and distribution service that the Company will not

resource cost test, or customized variations on these tests.

1 collect from each kW of demand and each kWh of energy that is “not sold” as a result of
2 its programs.

3 Under the Settlement the Company will be allowed to recover net lost revenues
4 for three years. I certainly agree that some mechanism is required to address the impact
5 of energy efficiency on utility earnings. However, the choice on a specific approach
6 requires considerable analysis and deliberation. There is no evidence that the simplified,
7 high-level approach proposed in the settlement is the best approach. For example, it is
8 not clear that the level of NLR is reasonable nor that consideration was given to reducing
9 the Company’s weighted average cost of capital to reflect the lower risk from recovering
10 NLR.

11 The Company and Public Staff should consider the decoupling approach
12 recommended in the testimony of Mr. Nathanael Greene. However, I agree that it is
13 advisable to have some type of mechanism for this purpose, and that the net lost revenue
14 approach proposed in the settlement is preferable to outright denial of any mechanism.

15 IV. ALTERNATIVE TO COMPANY PROPOSAL

16 **Q. IS THE INCENTIVE STRUCTURE PROPOSED BY PROGRESS ENERGY**
17 **REASONABLE?**

18 **A.** No. The specific incentive structure for Progress Energy under the Settlement is not
19 reasonable. First, according to the testimony of Mr. Henderson, the energy reduction
20 goal that Progress Energy is proposing to achieve is low relative to the reductions being
21 achieved by other utilities. Second, the total level of incentive that Progress Energy

1 would receive is not supported by any quantitative analysis and appears to be
2 substantially higher than the levels in other jurisdictions.

3 **Q. WHAT FACTORS DO YOU SUGGEST THAT THE COMMISSION CONSIDER**
4 **WHEN DETERMINING WHETHER A PARTICULAR INCENTIVE PROPOSAL**
5 **FOR UTILITY DSM AND EE PROGRAMS IS REASONABLE?**

6 A. In order to determine whether a particular incentive proposal for utility DSM and EE
7 programs is reasonable I suggest that the Commission consider both the performance the
8 Company proposes to achieve, and the compensation for actually achieving that
9 performance. Once it has established the rationale, I suggest that Commission evaluate
10 the design or “mechanics” of each proposed incentive relative to that rationale, i.e., how
11 should the incentive be provided.

12 **Q. DO YOU FAVOR A CAPITALIZED EXPENSE APPROACH OVER A**
13 **PERFORMANCE INCENTIVE APPROACH, OR VICE VERSA.**

14 A. No. I think each approach is worth considering. One advantage that a performance
15 incentive appears to have over a capitalized expense approach is that the level of
16 incentive actually paid can be tied to the Company’s actual performance in reducing
17 energy and demand relative to an explicit, pre-set target.

18 **Q. WHAT REDUCTIONS IN ENERGY AND DEMAND DO YOU RECOMMEND**
19 **BE SET AS PERFORMANCE TARGETS FOR THE COMPANY?**

20 A. Mr. Brian Henderson recommends performance targets for reductions in energy and
21 demand in his testimony. I support those performance targets.

1 Q. DO YOU RECOMMEND THAT THE COMMISSION ESTABLISH AN
2 INCENTIVE FOR PROGRESS ENERGY TIED TO ITS ACTUAL
3 PERFORMANCE IN REDUCING ENERGY AND DEMAND THROUGH ITS EE
4 AND DSM PROGRAMS?

5 A. Yes. Providing Progress Energy a financial incentive linked to its performance in
6 reducing energy and demand relative to a specific goal is in the public interest. Such an
7 incentive structure is consistent with ratemaking principles.

8 Q. IS THE ALTERNATIVE PERFORMANCE INCENTIVE THAT YOU
9 RECOMMEND CONSISTENT WITH THE INCENTIVE THAT PUBLIC
10 STAFF RECOMMENDED IN THE DUKE PROCEEDING?

11 A. Yes. As I noted earlier, the components of a performance incentive structure for PEC
12 should include a performance goal, an incentive for achieving that goal, and incentives
13 for actual performance above the goal and below the goal. I am recommending an
14 incentive structure similar to the one that Public Staff proposed in the Duke proceeding.
15 This structure may provide the Commission with a reasonable starting point for its
16 deliberations in this proceeding. I recognize that the Commission will consider the
17 evidence presented on this issue by all of the parties to the proceeding.

18 **Performance Goal.** This goal should not be based on the low level of reductions
19 that PEC has proposed in its filing. (The testimony of Mr. Henderson explains that the
20 level of reductions PEC is proposing are unduly low). Instead, the goal level of
21 performance should be an alternative, higher level of reduction based upon the proposals

1 presented in Table # 5 of the testimony of Mr. Henderson, e.g., 0.75% of sales in year
2 four.

3 **Incentive for Meeting 100% of Performance Goal.** The level of incentive for
4 achieving the performance goal should be based upon the level of incentives that Public
5 Staff proposed in the Duke proceeding, i.e., a pre-tax incentive of 10% of net savings for
6 energy reductions and 5% for demand reductions. Those levels of incentives are
7 consistent with the levels approved in other states. The difference in incentives for
8 energy reductions and demand reductions is consistent with their relative importance,
9 energy reductions should be a higher priority than demand reductions because they
10 reduce the need for new baseload plants, the production of energy from baseload and
11 intermediate plants, and carbon dioxide emissions associated with that production.

12 **Incentives for Actual Performance Above or Below Goal.** The
13 incentives for actual performance above the goal and below the goal should be based
14 upon, but not equal to, the levels of incentives Public Staff recommended in the Duke
15 proceeding. In that proceeding Public Staff proposed higher levels of incentives for
16 achievement at, or above, 150% of the goal and lower levels of incentives for
17 achievement at, or below, 50% of the goal. I suggest that the Commission consider a
18 more graduated approach, with more intervals of performance and incentives at each of
19 those levels. Table 1, below, illustrates the additional levels of performance, and
20 corresponding incentives, that I am suggesting.

21

| Table 1 - Suggested performance incentive for EE program costs | | |
|---|---|---------------------------|
| Actual Performance as % of Performance Target | Pre-tax incentive amount as a percentage of net savings | |
| | Public Staff proposal in Duke Energy Carolina proceeding | Suggested modification |
| 0 – 50% | 2% | 2 % (same) |
| 50% - 85% | 2% | 5% (higher) |
| 85% - 115% | 10% | 10% (same) |
| Greater than 115% | 10% | 15% (higher) |

1

2 **Q. CAN YOU ILLUSTRATE HOW THE STRUCTURE OF YOUR PROPOSED PPI**

3 **DIFFERS FROM THAT UNDER THE SETTLEMENT?**

4 A. Yes. Hornby Exhibit 3 compares the structure of the Company's proposed performance
5 incentive to an alternative structure.

6 **Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

7 A. Yes.

James Richard Hornby

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA. *Senior Consultant*, 2006 to present.

Analysis and expert testimony regarding planning, market structure, ratemaking and contracting issues in the electricity and natural gas industries.

Charles River Associates (formerly Tabors Caramanis & Associates), Cambridge, MA.

Principal, 2004-2006.

Senior Consultant, 1998-2004.

Provided expert testimony and litigation support in several energy contract price arbitration proceedings, as well as in electric and gas utility ratemaking proceedings in Ontario, New York, Nova Scotia and New Jersey. Managed a major productivity improvement and planning project for two electric distribution companies within the Abu Dhabi Water and Electricity Authority. Analyzed a range of market structure and contracting issues in wholesale electricity markets.

Tellus Institute, Boston, MA.

Vice President and Director of Energy Group, 1997-1998.

Presented expert testimony on rates for unbundled retail services in restructured retail markets and analyzed the options for purchasing electricity and gas in those markets.

Manager of Natural Gas Program, 1986-1997.

Prepared testimony and reports on a range of gas industry issues including market structure, unbundled services, ratemaking, strategic planning, market analyses, and supply planning.

Nova Scotia Department of Mines and Energy, Halifax, Canada; 1981-1986

Member, Canada-Nova Scotia Offshore Oil and Gas Board, 1983-1986

Member of a federal-provincial board responsible for regulating petroleum industry exploration and development activity offshore Nova Scotia.

Assistant Deputy Minister of Energy 1983-1986

Responsible for analysis and implementation of provincial energy policies and programs, as well as for Energy Division budget and staff. Directed preparation of comprehensive energy plan emphasizing energy efficiency and use of provincial energy resources. Senior technical advisor on provincial team responsible for negotiating and implementing a federal/provincial fiscal, regulatory, and legislative regime to govern offshore oil and gas. Directed analyses of proposals to develop and market natural gas, coal, and tidal power resources. Also served as Director of Energy Resources (1982-1983) and Assistant to the Deputy Minister (1981-1982).

Nova Scotia Research Foundation, Dartmouth, Canada, Consultant, 1978–1981
Edited Nova Scotia's first comprehensive energy plan. Administered government-funded industrial energy conservation program—audits, feasibility studies, and investment grants.

Canadian Keyes Fibre, Hantsport, Canada, Project Engineer, 1975–1977

Imperial Group Limited, Bristol, England, Management Consultant, 1973–1975

EDUCATION

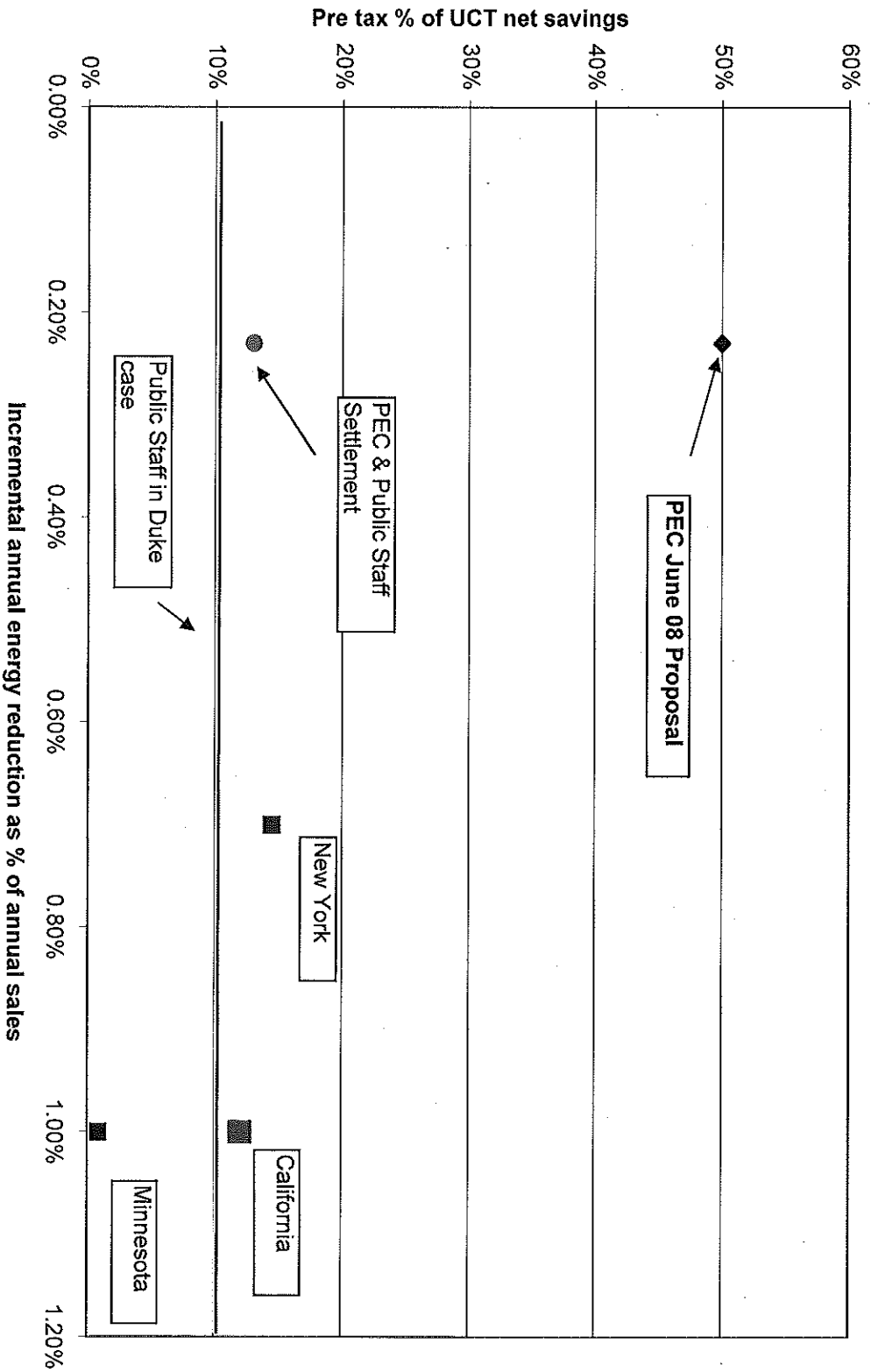
M.S., Technology and Policy (Energy), Massachusetts Institute of Technology, 1979.
Thesis: "An Assessment of Government Policies to Promote Investments in Energy Conserving Technologies"

B.Eng. Industrial Engineering (with Distinction), Dalhousie University, Canada, 1973

EXPERT TESTIMONY AND LITIGATION SUPPORT (1987 to present)

Provided expert testimony and/or litigation support on planning, market structure, ratemaking and gas supply/fuel procurement in the electric and gas industries in approximately 100 proceedings in over thirty jurisdictions in the United States and Canada. List of proceedings available upon request.

**Performance Incentive for Energy Efficiency at 100% of Performance Target
(expressed as % of Utility Cost Test net savings) in Addition to Any Return via Cost of
Capital / Carrying Costs**



Shape of Performance Incentive (% of Incentive at Goal vs Level of Performance)

Progress Energy Proposal vs Alternative Approaches

